Making flatpaks from Fedora RPMs

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Outline

- What is a flatpak?
- Why Fedora needs flatpak
- Fedora flatpak: short overview
- The anatomy of Fedora flatpaks
- [Demo] Building Fedora flatpak
- Can you build your own Fedora flatpak?
- Near(?) future
What is a Flatpak?
Why Fedora needs flatpak?
Diversity

- Flathub: 1200 applications (as of 25. 4. 2021)
- Fedora flatpak: +-100 applications
  - But thousands more in RPMs!
Fedora Silverblue

- Immutable OS
- OSTree
- Toolbox
- Flatpaks
Fedora flatpak: short overview?
Fedora flatpaks

- Based on existing RPMs
- Using Modularity - rebuild sources with /app prefix
- OCI images/containers
- Based on two files: application.yaml and container.yaml
- registry.fedoraproject.org
application.yaml

---
document: moduleend
version: 2
data:
  summary: Jump'n run like game
  description: >-
    SuperTux is a jump'n run like game, Run and jump through multiple worlds, fighting
    off enemies by jumping on them or bumping them from below. Grabbing power-ups
    and other stuff on the way.
  license:
  module:
  - MIT
dependencies:
  - buildrequires:
    flatpak-common: [f33]
    flatpak-runtime: [f33]
    platform: [f33]
  requires:
    flatpak-common: [f33]
    flatpak-runtime: [f33]
    platform: [f33]
profiles:
  default:
    rpms:
    - supertux
components:
  rpms:
    supertux:
      rationale: Application package
      ref: f33
      buildorder: 10
compose:
  modules:
  - supertux:master
flatpak:
  id: org.supertuxproject.SuperTux
  branch: stable
  command: supertux2
  rename-appdata-file: supertux2.appdata.xml
  rename-desktop-file: supertux2.desktop
  rename-icon: supertux2
  finish-args: |
    --socket=wayland
    --socket=x11
    --share=ipc
    --socket=pulseaudio
    --share=network
    --device=all
Building a flatpak: demo
Building a flatpak: step 0

- mkdir app && cd app
- make app.yaml and container.yaml
  - app.yaml: ModuleMD file -> info about rpms and versions
  - container.yaml: module -> container info (e.g. permissions)
- fedmod rpm2flatpak [--flatpak-common] [--flathub=app] app
Building a flatpak: step 1

- Rebuild packages with `/app` prefix (build module locally)
- Build a flatpak from the module
- Install and test it
- `flatpak-module local-build [--install]`
  - `flatpak-module module-build`
  - `flatpak-module build-container --from-local`
  - `flatpak-module install app-xyz-oci.tar.gz`
Building a flatpak: step 2

- Request repository
- Build everything in Fedora infrastructure
- Test it
- Submit new package update into Bodhi
- `fedpkg request-repo --namespace flatpaks appname`
- `fedpkg module-build && fedpkg flatpak-build`
Can you make your own flatpak?

YES!

- https://docs.fedoraproject.org/en-US/flatpak/tutorial/
- https://fedoraproject.org/wiki/Flatpak:Easy
- http://janberan.tech/2021/02/rpm2flatpak/
- https://mojefedora.cz/jak-z-rpm-vytvorit-flatpak/
Near(?) future
Near(?) future

- RHEL and Copr flatpaks
- Integrating community into the process
- Automation
How to activate Fedora flatpak repository?

- flatpak remote-add fedora
  oci+https://registry.fedoraproject.org
The end